

D.) AMENDMENTS TO THE DRAWINGS

None.

E.) REMARKS

This amended Response is filed in response to the Office Action dated November 1, 2006.

Upon entry of this Response, claims 1-10 and 20-22 will be pending in the Application.

In the Office Action dated November 1, 2005, the Examiner rejected claims 1-10, 20 and 21 under 35 U.S.C. 112, second paragraph, as being indefinite; rejected claims 1-10, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Stowell et al. (U.S. Patent No. 6,413,578); and rejected claims 1, 2, 4 to 10, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over MacDougald et al. (U.S. Patent No. 6,648,645).

Applicant has amended claim 1 to further include the limitations of claim 3.

Applicant has added claim 21 that recites a plasticizer comprising dibutyl phthalate. Support for this amendment can be found at [0026].

Rejection under 35 U.S.C. 103

A. Stowell (U.S. Patent No. 6,413,578)

The Examiner rejected 1-10, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Stowell et al. (U.S. Patent No. 6,413,578), hereafter referred to as "Stowell."

Specifically, the Examiner stated that

Stowell teaches a method of repairing a thermal barrier coating which comprises filling an area with a ceramic paste. See column 4, lines 29 and on. This paste contains a ceramic powder and a silicone based binder. The ceramic powder is used in an amount of about 50 to 95% and the powder to binder ratio is preferably 3:1.

With the range of 50 to 95 wt%, one having ordinary skill in the art would have found the selection of, for instance, 72 wt% of ceramic particles to have been obvious, as this is the middle point of the ceramic particle range in Stowell et al. Such a ceramic powder content will correspond to 24 wt% silicone. This results in a composition having the same amounts of ceramic particles and silica yielding liquids as claimed. Obviously, one can select other values within the teachings of Stowell et al. That will fall within the ceramic particle/silica yielding liquid ranges claimed.

Column 5, lines 7 and on, teach the addition of up to 10 wt% of an additive to ensure a proper consistency. This corresponds to a plasticizer. In view of this teaching one having ordinary skill in the art would have found a value of, for instance, 1 to 3 wt% obvious. In this manner Stowell et al. render obvious a composition having each of the claimed components in the claimed amounts. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art

(i.e. doesn't require undue experimentation).

While not specifically teaching a putty like composition that is capable of being rolled into a cylinder, a paste is comparable in consistency and properties to a putty. Though Stowell et al. do not specifically teach that the composition is capable of being rolled into a cylinder, the fact that it is referred to as a paste, that is applied with a trowel (column 5, line 17) and that it has the same ratio of ceramic particles as silica yielding liquids leave one with a reasonable expectation that this claimed property will inherently be met by the composition in Stowell et al.

For claim 2, see column 4, line 37. The bottom of column 3 teaches a particle size range that overlaps with that in claim 3. The top of column 5 teaches alcohols meeting claims 9 and 10. They are added in an amount sufficient to dissolve the binder. Column 5, line 33, teaches that the silicone binder forms silica upon heating.

For claim 10, see line 44 of column 9.

Applicants respectfully traverse the rejection of claims 1-10, 20 and 21 under 35 U.S.C. § 103(a).

As understood, Stowell teaches a method of repairing a thermal barrier coating by applying a ceramic paste. The ceramic paste of Stowell contains ceramic particles dispersed in a binder and a solvent. The paste may include a surfactant.

In contrast, independent claim 1, as amended, recites a composition for use in a ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising: about 55 % to 72 % by weight ceramic particles; about 1 % to 3 % by weight plasticizers; and about 20 % to 26% by weight silica-yielding liquids; and sufficient solvent to permit mixing of the components and forming a pliable composition having a putty-like consistency capable of being rolled into a cylinder, wherein the cylinder conforms to and substantially fills a void between the radius region and the skin member; and wherein the ceramic particles range in size from about -20 mesh to about +50 mesh.

Several of the features recited by Applicant in independent claim 1 are not taught or suggested by Stowell. For example, Stowell does not teach or suggest the addition of a plasticizer to the composition. The Examiner has incorrectly stated that

Column 5, lines 7 and on, teach the addition of up to 10 wt% of an additive to ensure a proper consistency. This corresponds to a plasticizer.

This interpretation of Stowell is incorrect. Stowell merely discloses adding a surfactant (see Stowell col. 5, lines 7-12), which does not teach or suggest the claimed plasticizer. Applicant has included the Condensed Chemical Dictionary (CCD) definition of surfactant (surface-active agent) as

Surfactant (surface active agent) – Any compound that reduces surface tension when dissolved in water or water solutions, or that reduces interfacial tension between two liquids, or between a liquid and a solid.

whereas, the CCD defines plasticizer as

Plasticizer – An organic compound added to a high polymer both to facilitate processing and to increase the flexibility and toughness of the final product by internal modification (salvation) of the polymer molecule.

Both Stowell and Applicant's disclosure support this distinct plain meaning. Stowell discloses at col. 5, lines 7-16 that

surfactants to achieve a suitably tacky consistency that enables the paste 24 to adhere to the composition a the surface 22, which as noted above may be defined by portions of the metallic bond coat 14, the oxide scale 18 and/or remnants of the ceramic layer 16. For example, up to about 10 weight percent of a nonionic surfactant may be desirable. Examples of suitable surfactants commercially available are P521A and Merpol form Witco and Stephan, respectively.

In contrast, Applicant's independent the composition as claimed in independent claim 1 includes a plasticizer. Applicant's Specification at [0026] further discloses a component of an exemplary plasticizer as comprising dibutyl phthalate.

The CCD provides uses of dibutyl phthalate as

Dibutyl phthalate – Uses – Plasticizer in nitrocellulose lacquers, elastomers, explosives, nail polish and solid rocket propellants;

Further supporting the distinction between a plasticizer and a surfactant.

Thus, the art known distinction between the meaning of plasticizer and surfactant frees independent claim 1 from the cited art of Stowell.

Additionally, Stowell does not disclose wherein the ceramic particles range in size from about -20 mesh to about +50 mesh as currently found in amended claim 1. This limitation is not disclosed by Stowell.

In discussing claim 3, the Examiner stated

The bottom of column 3 teaches a particle size range that overlaps with that in claim 3.

This is an incorrect interpretation of Stowell. Stowell discloses at the bottom of col. 3, lines 63-67 that:

"The ceramic layer 16 is deposited to a thickness that is sufficient to provide the required thermal protection for the component 10, typically on the order of about 50 to about 300 micrometers for most gas turbine engine components."

Stowell is disclosing a thickness of the ceramic layer, not a particle size range.

Furthermore, Stowell does not teach or suggest forming a pliable composition that conforms to and substantially fills a void between the radius region and the skin member of a ceramic composite stiffener as recited by Applicant in independent claim 1.

Therefore, in view of the above, independent claim 1 is believed to be distinguishable from Stowell and therefore is not anticipated nor rendered obvious by Stowell.

Applicant submits that dependent claims 2, 4-10 and 20-22 are distinguishable from Stowell for at least the following reason. Dependent claims 2, 4-10 and 20-22 are believed to be distinguishable from Stowell as depending from what is believed to be allowable independent claim 1 as discussed above.

In addition, claims 2, 4-10 and 20-22 recite further limitations that distinguish over the applied art. For example, currently amended claim 22 contains a limitation to a plasticizer comprising dibutyl phthalate which is not taught nor obvious by Stowell.

In conclusion, it is respectfully submitted that claims 1, 2, 4-10 and 20-22 are not anticipated nor rendered obvious by Stowell and are therefore allowable.

B. MacDougald (U.S. Patent No. 6,648,645)

The Examiner rejected 1, 4 to 10, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over MacDougald et al. (U.S. Patent No. 6,648,645), hereafter referred to as "MacDougald."

Specifically, the Examiner stated that

MacDougald et al. teach a method for manufacturing dental restorations. As can be seen from the second paragraph of the abstract, this includes a homogeneous composition in which a ceramic powder is in combination with a media material. See for instance Example 1 on column 8. This prepares a putty like composition that is non-sticky, soft and workable. From this it would appear that such a putty meets the capable of being rolled into a cylinder limitation. This composition contains 75 wt% of a ceramic particle and 25 wt% of a silicone composition. This meets the claimed amounts of ceramic particles and silica yielding particles, given the fact that "about 72" wt% overlaps with 75 wt%. See also column 7, lines 5 and on, which teaches ranges for both the ceramic particles and media material that overlap with and embrace that claimed.

Example 1 differs from that claimed in that it does not include a plasticizer. Column 7, line 45 and on, teaches that it is important to include a dispersing agent to enhance dispersion of the particles within the media system and to improve the flow of the feedstock. While not specifically teaching the claimed range, again note that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art please not that when the general conditions of a composition are disclosed. With this in mind, the skilled artisan would have found the claimed composition to have been obvious.

See the top of column 7 which teaches alumina, meeting claim 2. See column 4, lines 53 and on, which teach various silicones, including non-curing ones. Note too Example 3 which uses such a silicone. This meets claim 5. Column 4, line 50 teaches using an amount of solvent sufficient to facilitate the blending/mixing of the silicone and powder. From this one having ordinary skill in the art would have been motivated to determine the operable amount of solvent, rendering obvious claim 6. On the other hand, for claims 9 and 10, note that claim 1 does not specifically require that a solvent be present if the composition can be mixed and is pliable on its own. Thus one can read the solvents in claims 9 and 10 as being optional.

Applicants respectfully traverse this rejection of claims 1, 2, 4 to 10, 20 and 21 under 35 U.S.C. § 103(a).

As understood, MacDougald teaches a mixture that may be used for dental restoration. The mixture includes ceramic particles and a media to carry the ceramic particles. The media is formed of a silicone polymer family material.

In contrast, independent claim 1, as amended, recites a composition for use in a ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising: about 55 % to 72 % by weight ceramic particles; about 1 % to 3 % by weight plasticizers; and about 20 % to 26% by weight silica-yielding liquids; and sufficient solvent to permit mixing of the components and forming a

pliable composition having a putty-like consistency capable of being rolled into a cylinder, wherein the cylinder conforms to and substantially fills a void between the radius region and the skin member; and wherein the ceramic particles range in size form about -20 mesh to about +50 mesh.

Several of the features recited by Applicant in independent claim 1 are not taught or suggested by MacDougald. For example, MacDougald does not teach or suggest wherein the ceramic particles range in size form about -20 mesh to about +50 mesh as found in currently amended claim 1. MacDougald discloses a size of particles in the range of about 0.5 to about 50 microns and preferably in the range of about 1 to about 3 microns for crystalline ceramics such as alumina and from about 5 to about 20 microns for glass-ceramics such as lithium silicate-based glass ceramics (see MacDougald col. 3, lines 55-59). Thus, the particles of MacDougald are several orders of magnitude smaller than the particles as claimed in independent claim 1 as currently amended.

Furthermore, MacDougald does not teach or suggest forming a pliable composition that conforms to and substantially fills a void between the radius region and the skin member of a ceramic composite stiffener as recited by Applicant in independent claim 1.

Applicant submits that dependent claims 2, 4-10 and 20-22 are distinguishable from MacDougald for at least the following reasons. To begin, dependent claims 2, 4-10 and 20-22 are believed to be distinguishable from MacDougald as depending from what is believed to be allowable independent claim 1 as discussed above. Furthermore, currently amended claim 22 contains a limitation to a plasticizer comprising dibutyl phthalate which is not taught or obvious by MacDougald.

Therefore, in view of the above, dependent claims 2, 4-10 and 20-22 are believed to be distinguishable from MacDougald and therefore are not anticipated nor rendered obvious by MacDougald. In addition, claims 2, 4-10 and 20-22 recite further limitations that distinguish over the applied art.

In conclusion, it is respectfully submitted that claims 1, 2, 4-10 and 20-22 are not anticipated nor rendered obvious by MacDougald and are therefore allowable.

Rejection under 35 U.S.C. 112

The Examiner rejected claims 1-10, 20 and 21 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention.

Applicant respectfully traverses the rejection of claims 1-10, 20 and 21 under 35 U.S.C. 112, second paragraph.

The Examiner stated:

These claims are considered to be indefinite because it is not clear what is embraced by the term "about". The Examiner notes that this term is given latitude but the exact degree of latitude is unclear.

MPEP 2173.05(b) states that:

The term "about" used to define the area of the lower end of a mold as between 25 to about 45% of the mold entrance was held to be clear, but flexible. Ex parte Eastwood, 163 USPQ 316 (Bd. App. 1968). Similarly, in *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), the court held that a limitation defining the stretch rate of a plastic as "exceeding about 10% per second" is definite because infringement could clearly be assessed through the use of a stopwatch. However, the court held that claims reciting "at least about" were invalid for indefiniteness where there was close prior art and there was nothing in the specification, prosecution history, or the prior art to provide any indication as to what range of specific activity is covered by the term "about." *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991).

In this regard, the Examiner draws attention to the compositions Ruud et al. For instance see the composition known as the "standard formulation" prepared on column 6, line 60 and on. In this composition 9.3 grams of a lubricant are combined with a solvent. Even giving the term "about" a degree of latitude the Examiner does not believe that this particular range is sufficient to anticipate and /or suggest the claimed composition. However, Ruud et al. disclose many variations of this standard formulation. For instance column 10, line 38, discloses adjusting the ratio of primer to ceramic particle to about .36. Such a composition will contain about 24.8% silicone, 69% ceramic and 6% lubricant. The amount of silicone and ceramic fall well within the claimed ranges. In this instance it is unclear, given the breadth of "about", if 6% lubricant would meet or render obvious the claimed range. Also note the composition taught on column 10, line 20, in which the standard formulation is adjusted to have 40% less solvent and lubricant and that taught on column 10, line 38, in which the silicone to aggregate ratio is adjusted to .43%.

In general Ruud et al. teach various different composition, in which each of the components either fall within the claimed range or just outside the claimed range. In view of the breadth and uncertainty of the term "about" it is unclear if such compositions meet and/or render obvious the instant claims.

Applicants respectfully traverse this rejection of claims 1-10, 20 and 21 under 35 U.S.C. 112, second paragraph.

The term "about," as used in this application, does not lack definiteness since one of ordinary skill in the art would understand its meaning. In this case, such terms are warranted by the nature of the invention, in order to accommodate the minor variations that may be appropriate to secure the invention. Such usage well satisfies the charge to "particularly point

out and distinctly claim" the invention 35 U.S. C. 112, and indeed may be necessary in order to provide the inventor with the benefit of his invention. Furthermore, courts have found that the term "about" and the term "substantially" is a descriptive term commonly used in patent claims to "avoid a strict numerical boundary to the specified parameter." (see *Pall Corp. V. Micron Separations, Inc.*, 66 F.3d 1211, 1217, 36 USPQ2d 1225, 1229 (Fed. Cir. 1995). As such, the meaning of the term would be understood by one of ordinary skill in practicing the invention and are thus to be found definite.

Applicant finds that Stowell uses the term "about" in both the specification and claims and MacDougald throughout the specification, further supporting an understanding of the term within the art. Also, it appears the Examiner in his discussion of Ruud, which also generously uses the term "about" throughout the specification, is arguing that the term "about" is indefinite in the Ruud reference, and therefore can be broadened into the pending claims. It is unclear how an argument as to the indefiniteness of "about" in Ruud renders the pending claims indefinite.

Therefore, in view of the above, Applicant submits that claims 1, 2, 4-10 and 20-22 are not indefinite and comply with the provisions of 35 U.S.C. 112, second paragraph, and therefore are allowable.

CONCLUSION

In view of the above, Applicant respectfully requests reconsideration of the Application and withdrawal of the outstanding objections and rejections. As a result of the amendments and remarks presented herein, Applicant respectfully submits that claims 1, 2, 4-10 and 20-22 are not anticipated by nor rendered obvious by Stowell or MacDougald, and are not indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, and thus, are in condition for allowance. As the claims are not anticipated by nor rendered obvious in view of the applied art, nor indefinite, Applicant requests allowance of claims 1, 2, 4-10 and 20-22 in a timely manner. If the Examiner believes that prosecution of this Application could be expedited by a telephone conference, the Examiner is encouraged to contact the Applicant.

The Commissioner is hereby authorized to charge any additional fees and credit any overpayments to Deposit Account No. 50-1059.

Respectfully submitted,
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